**TOPIC 5: Environmental Hazards and Human Health**

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| **Standards** | **10-9** | **8** | **7** | **6** | **5** | **4-3** | **2-0** |
| Hazards to Human Health | Evaluate methods to reduce personal risk due to environmental risk factors. | Conduct a personal environmental risk analysis and list common personal human hazards. | Define environmental risk analysis (assessment) and list examples of common human hazards. | Define environmental risk analysis (assessment) and list some examples of common human hazards. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Compare and contrast the acute and chronic effects of exposure to two contaminants. | Research and analyze the acute and chronic effects of exposure to a specific contaminant. | Provide examples of acute (short-term) and chronic (long-term) effects of exposure to contaminants. | Define acute (short-term) and chronic (long-term) effects of exposure to contaminants. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |

**Topic 6: Food, Soil, and Pest Management**

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| **Standards** | **10-9** | **8** | **7** | **6** | **5** | **4-3** | **2-0** |
| Feeding a Growing Population | Rank the types of agriculture with respect to ecological integrity. Justify your claim with evidence. | Compare and contrast the advantages and disadvantages of two types of agriculture. | Describe the advantages and disadvantages of various types of agriculture. | List the various types of agriculture. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Analyze the long-term sustainability of the Green Revolution (both environmental and human). | Evaluate the effectiveness of the Green Revolution in feeding the global population. | List the advantages and disadvantages of the Green Revolution in feeding the global population. | Define the Green Revolution. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Controlling Pests | Make a recommendation regarding which pest management strategy should be widely used: conventional pesticides or integrated pest management. Justify your claim with evidence. | Determine if the benefits outweigh the consequences in conventional pesticide use. Justify your claim with evidence. | Describe the effectiveness of pesticides to including the following factors: cost, benefits, drawbacks, relevant laws. | Define pesticides. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Determine if the benefits outweigh the consequences for integrated pest management. Justify your claim with evidence. | Describe the effectiveness of integrated pest management including biological controls, cultivation controls, benefits, and drawbacks. | Define integrated pest management. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |

**Topic 7: Water and Water Pollution**

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| **Standards** | **10-9** | **8** | **7** | **6** | **5** | **4-3** | **2-0** |
| Water Resources | Evaluate how availability, distribution, and quality of water impact the effectiveness of the Green Revolution. | Evaluate how water availability and distribution has changed over time. | Describe how the availability, distribution and use of water resources have lead to global water availability concerns. | List where major reservoirs of water exist. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Rank the factors that impact current and future water quantity and quality with respect to water availability. | Describe factors that impact current and future water quantity and quality. | List factors that impact current and future water quantity and quality. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Water Pollution | Make a recommendation to reduce the causes of water pollution. | Rank the types of pollution by environmental degradation. | Discuss the types, sources, and causes of water pollution. | List sources of water pollution. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Evaluate and determine the most effective method for purifying and treating water (sewage treatment and septic systems) OR suggest a new alternative method. | Compare and contrast the methods for purifying and treating water (sewage treatment and septic systems). | Summarize the methods for purifying and treating water (sewage treatment and septic systems). | List methods for purifying and treating water (sewage treatment and septic systems). | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Analyze current water quality issues and propose methods to strengthen the Clean Water Act. Justify your claim with evidence. | Describe the impact of the Clean Water Act on a specific community. | Summarize the effectiveness of the Clean Water Act. | Define the Clean Water Act. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |

**TOPIC 8: Energy Resources and Consumption**

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| **Standards** | **10-9** | **8** | **7** | **6** | **5** | **4-3** | **2-0** |
| Global Energy Use | Predict the impact demographic transition will have on future energy supplies. | Compare and contrast energy consumption in developed and developing nations. | Identify current and future global energy needs | List types of energy sources. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Fossil Fuels | Analyze and predict future environmental impacts of continuing current energy production techniques. | Compare and contrast methods of extracting and purifying fossil fuels. | Identify the advantages and disadvantages of methods for extracting and purifying fossil fuels. | List methods of extracting and purifying fossil fuels. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Nuclear Energy | Map current and future trends of nuclear energy use. | Illustrate how nuclear generates electricity. | Describe how nuclear fission generates electricity. | Define nuclear fission. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| For a specific nuclear incident, describe the precipitating event and the resulting human and environmental cost. | Compare and contrast the environmental impact of fossil fuels and nuclear power generation. | Analyze the advantages and disadvantages to environmental and human safety with generating nuclear energy | List the advantages and disadvantages to environmental and human safety with generating nuclear energy. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Describe the fallibilities of nuclear power generation. | Survey case studies involving breaches in human safety at nuclear power plants including past and current nuclear incidents. | List past nuclear incidents. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Transportation Efficiency | Recommend the best method to increase transportation efficiency. Justify your claim with evidence. | Compare and contrast methods for increasing transportation efficiency. | Discuss methods for increasing transportation efficiency. | Define energy efficiency. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Renewable Energy Sources | Recommend the best renewable energy option. Justify your claim with evidence. | Compare and contrast renewable energy sources. | Analyze the advantages and disadvantages of renewable energy sources. | List renewable energy sources. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |

**Topic 9: Air Pollution, Climate Change, and Ozone Depletion**

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| **Standards** | **10-9** | **8** | **7** | **6** | **5** | **4-3** | **2-0** |
| Outdoor Air Pollution | Make a recommendation to improve outdoor air quality. | Discuss the cumulative effects of the factors that affect outdoor air quality. | Describe the factors that influence outdoor air quality. | List the factors that influence outdoor air quality. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Indoor Air pollution | Make a recommendation to improve indoor air quality. | Compare and contrast specific health risks due to indoor air contaminants. | Discuss the health risks due to indoor air quality including sick-building syndrome. | Define sick-building syndrome. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Remediation and Reduction Strategies | Evaluate and determine the most effective method for remediating or reducing indoor and outdoor air pollution OR suggest a new alternative method. | Compare and contrast the methods for remediation and reduction strategies for indoor and outdoor air pollution. | Discuss remediation and reduction strategies for indoor and outdoor air pollution. | List remediation and reduction strategies for indoor and outdoor air pollution. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Clean Air Act | Analyze current air quality issues and propose methods to strengthen the Clean Air Act. Justify your claim with evidence. | Describe the impact of the Clean Air Act on a specific community. | Summarize the effectiveness of the Clean Air Act. | Define the Clean Air Act. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Stratospheric Ozone | Analyze the global distribution of ozone depletion. | Illustrate the impact of long-term ozone depletion. | Identify the causes and effects of ozone depletion. | Define ozone depletion. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Analyze the impact of multiple laws/treaties on reducing ozone depletion. | Identify a specific law or treaty and describe its impact on reducing ozone depletion. | Summarize strategies, laws and treaties for reducing ozone depletion. | List some strategies, laws and treaties for reducing ozone depletion. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Climate Change | Compare and contrast locations where the effects of climate change are evident. | Locate and analyze locations where the effects of climate change are evident. | Identify the causes and consequences of global climate change. | Define global climate change. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Analyze the impact of multiple laws/treaties on reducing climate change. | Identify a specific law or treaty and describe its impact on reducing climate change. | Discuss relevant laws and treaties for reducing climate change. | List relevant laws and treaties for reducing climate change. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |

**Topic 10: Solid and Hazardous Waste**

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| **Standards** | **10-9** | **8** | **7** | **6** | **5** | **4-3** | **2-0** |
| Solid Waste | Evaluate and determine the most effective method for disposing of solid waste. | Compare and contrast the advantages and disadvantages of various methods of solid waste disposal. | Compare various methods of solid waste disposal. | List various methods of solid waste disposal. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Hazardous Waste | Evaluate and determine the most effective method for disposing of hazardous waste. | Use case studies to analyze advantages and disadvantages of the various methods of hazardous waste disposal. | Compare and contrast various methods of hazardous waste disposal. | List advantages and disadvantages of the various methods of hazardous waste disposal. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Analyze the impact of multiple laws/treaties on hazardous waste disposal. | Identify a specific law or treaty and describe its impact on hazardous waste disposal. | Summarize strategies, laws, and treaties involving hazardous waste disposal. | List strategies, laws, and treaties involving hazardous waste disposal. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |
| Low Waste Society | Recommend the best alternative strategies that would lead to a low waste society. Justify your claim with evidence. | Compare and contrast alternative strategies that would lead to a low waste society. | List alternative strategies that would lead to a low waste society. | Define a low waste society. | Very limited achievement demonstrated | Minimal achievement demonstrated | No evidence of achievement |